CLINICAL MEDICINE

ORIGINAL ARTICLES

COMPLETE TABLE OF CONTENTS ON ADVERTISING PAGE FOUR

Financial Wizard .....

Dietary Dub!

He may not be one of your patients, but you know his dietary counterparts: Men—and women—too deeply immersed in "important" affairs to take time to eat properly. With them, scanty breakfasts and hasty, badly balanced lunches are the rule; dinners which fail to compensate for the defects of earlier meals, far from uncommon. The inevitable result is an increase in the ranks of the self-made victims of borderline vitamin deficiency. You know them, too: the ignorant and indifferent, food faddists, persons on self-imposed and badly balanced reducing diets, alcoholics, exce smokers and many others. For all of them di reform is first in order, of course. Dayamin sules may well be second. One easy-to-take amin Capsule supplies the daily *optimum* re ment for an adult of vitamins A, B_1, C, D, flavin and nicotinamide, plus appreciable am of pyridoxine hydrochloride and pantothenic In bottles of 30, 100, 250 and 1,000. Pharm are stocked and will welcome your prescript ABBOTT LABORATORIES, North Chicago, Ill

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Medical
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Diagnostic and Therapeutic Pointers on Malaria

By HARRY WARSHAWSKY, M.D., *and* D. E. NOLAN, M.D., *Dayton, Ohio*

THE literature has been replete with articles, on the subject of malaria for the past few years, which have served the purpose of an intensive campaign to alert the medical profession to the problem of malaria in our returned service men. Many physicians who had never seen a case of malaria in all the years of their practice have been called on to treat this disease. There should be no let down in this educational campaign. We still see patients who have been treated for various conditions, and sometimes for extended periods, when their true diagnosis is malaria. Such management can lead only to impairment of the veteran's health.

We have seen a large number of patients suffering from malaria, many of whom have received treatment at the hands of private practitioners. In a recent paper[1] some of the pitfalls in diagnosis have been pointed out. It is our purpose in this paper to stress the significant features of malaria which will be of practical importance to the practitioner.

It is pertinent to state that in the past year, at this hospital, we have seen some 300 cases of malaria. All of these were of the benign tertian variety, being due to the plasmodium vivax. Very few infections due to the plasmodium malariae which causes quartan malaria were acquired by our service men during this recent war. While there were a considerable number of cases of aestivo-autumnal malaria, infections due to plasmodium falciparum are very rare in the country at large because almost invariably they have been cured by atabrine suppressive therapy. Again infections due to plasmodium falciparum do not commonly relapse.

Previous Attacks

By and large the greatest number of cases of malaria which we now see give a history of at least one or more attacks of the clinical symptoms of this disease. However, due to the enforcement of atabrine prophylaxis throughout malarial endemic zones *many of the infected individuals did not develop any clinical signs of malaria until this suppressive treatment was discontinued.* It has been a common occurrence to see recently returned veterans who upon return to this country ceased taking atabrine and within a matter of a week to a month or two develop full blown signs and symptoms of malaria.

Undiagnosed Febrile Illnesses

It must be remembered that an initial attack can occur several days to many months after return, although the latter is not common. We have recently seen a young veteran of the Southwest Pacific area who had never had a sick day during two years of overseas service. He had faithfully taken suppressive dosage of atabrine. More than eight months following his return to this country he developed a bizarre febrile illness which lasted for seven days prior to admission to the hospital. He had been treated with a sulfonamide by his private physician who apparently did not think seriously of the possibility of malaria. The diagnosis of malaria was

promptly made and the attack was aborted readily by the administration of atabrine. It is of significance to note that *relapses of plasmodium vivax malaria can occur up to three years after the initial attack*, although more commonly immunity develops within one or two years.

Atypical Attacks

Much confusion results from the fact that many practitioners have indelibly impressed on their minds the classical picture of the chill, fever, and sweat recurring at 48 hour intervals. We wish to emphasize that initial attacks of malaria do not commonly present the well known clinical picture. *An irregular febrile course associated at times with a chilly sensation and general malaise* may persist for several days before a characteristic chill occurs. Again, there are some cases in which the temperature curve is irregular, remittent, or even continuous. This latter picture is caused by the presence of two or more generations of the plasmodium segmenting at such intervals as to modify the temperature curve in the ways mentioned. Cases of this type are frequently sent in to our hospital with diagnoses of fever of undetermined origin, influenza, and so on.

Malarial Bronchitis and Pneumonia

It is not commonly known that *acute bronchitis is not infrequently present as a complication of malaria.* In fact, it is observed in the majority of cases of severe infection. Usually this subsides with the cessation of the attack, but it may persist for some time longer. The danger of making a diagnosis of pneumonia in a patient who has had a chill and fever accompanied by a cough is obvious. To further complicate the matter, some of these patients may complain of considerable pain in the left upper quadrant with aggravation of this pain on inspiration. The problem should be quite readily resolved by careful analysis of the history and physical signs. If there is doubt, *a chest x-ray will be very helpful because pneumonia may complicate malaria at anytime and may develop insidiously or suddenly.*

Left Upper Quadrant Pain

We have been impressed by the importance of pain and tenderness in the left upper abdominal quadrant in the patient with a malarial paroxysm. Early in the course of malaria, the spleen may not be palpated, being soft and not much increased in size. However, deep palpation will frequently elicit tenderness even when there is no complaint of pain in this region. Daily palpation for the spleen is important because in the early stages palpable enlargement is transient. It is only in long continued malarial infection that the spleen is often greatly enlarged. Careful examination for an enlarged spleen should be performed not only with the patient in the prone position but in doubtful cases in the left lateral prone position so that the weight of the enlarged spleen pulls it down to the costal margin.

Diagnostic Aids

In occasional cases the blood smear despite thorough and painstaking examinations fails to reveal the parasite. *The presence of tenderness in the left upper quadrant is strong evidence in favor of a diagnosis of malaria* in a veteran who has served in a malarial endemic zone and who presents himself with an acute febrile illness. A blood smear revealing leukopenia makes the diagnosis of malaria more certain.

Before leaving the subject of the spleen, it is important to mention the rare occurrence of spontaneous rupture of this organ. This results from the soft and friable character of the spleen in acute malaria. It is only by constant awareness of this possibility that life saving surgery may be promptly instituted.

The importance of trauma, exposures, serious illness, and operations as factors

in causing malarial relapse cannot be overemphasized, especially when overseas veterans develop unexplained fever and chills during the postoperative period or convalescence from some illness. We have seen many veterans who have developed malarial paroxysms under conditions in which it would have been very natural to overlook the true diagnosis. For example, malarial relapse has occurred following recovery from meningococcus meningitis, pneumococcus pneumonia, surgical drainage of an amebic liver abscess, appendectomy, and so on. A carefully examined thick blood smear and a white blood cell count will usually help to put the physician on the right track.

The patient with plasmodium vivax malaria usually responds promptly to adequate atabrine therapy if this drug, which it is generally agreed is superior to quinine, is administered properly. If a recurrence of chill and fever does occur after treatment has been instituted, almost invariably a second episode of these symptoms does not occur during the relapse. The effect of this antimalarial drug on the disease is so constant that *one is justified in using this as a therapeutic test* in suspicious cases where a positive smear has not been obtained. In several instances where we have found it necessary to use this test, it has been of great value. Again in some patients who have suffered from repeated paroxysms of chills and fever prior to seeing the physician, it is not wise to take repeated daily smears in the search for the parasite while withholding treatment. If one can make a reasonably certain diagnosis of malaria on clinical grounds alone, it is proper to administer atabrine despite an initial negative smear. The development of a well marked degree of anemia in protracted malaria is very real and so postponement of treatment may be harmful. In fact, in severe tertian malaria the red cells may fall from normal to 3,000,000 per cu. mm. within 48 hours.[2]

The Patient Who Does Not Respond

The average case of malaria returns to reasonably good health and well being with surprising promptness following atabrine therapy. Whatever degree of anemia was present rapidly improves, although in some cases transfusion of whole blood may be indicated. *Any patient who fails to respond completely within a few days should be very seriously studied* for the possibility of some other illness. For example, one veteran whom we treated had a persistent anemia following recovery from a fairly typical malarial relapse. Intensive study and re-evaluation of the clinical picture resulted in a diagnosis of sprue.

With respect to chronic malaria and malarial cachexia, it may be said that these states occur only in the neglected or inadequately treated patient. We have only two or three patients in our series who could be so classified. But even these recovered their former well being within a fairly short time following the institution of adequate therapy.

Until chloroquine,[3] the newest antimalarial drug, becomes available the drug of choice is atabrine hydrochloride (quinacrine hydrochloride). It should be administered after meals with a full glass of water. The treatment schedule widely advocated is 3 grains (0.2 Gm.) every 6 hours for 5 doses followed by 1½ grains (0.1 Gm.) three times daily after meals for 6 days giving a total of 42 grains (2.8 Gm.) in the 7-day period of treatment. To develop an adequate blood level of atabrine earlier, the initial dosage schedule may be altered by giving 3 grains every 4 hours for 4 doses and then continuing with 1½ grains three times daily. If severe nausea and vomiting are present, the treatment can be initiated by the intramuscular injection of 6 grains (0.4 Gm.) of atabrine followed by one or two additional doses of 3 grains at intervals of 8 hours if necessary. The re-

mainder of the course should be administered by mouth, as outlined above, to give a total of 1.3 grams of the drug in the first 48 hours and a total of 2.8 grams in 7 days.

Rarely a patient cannot tolerate atabrine. To such a patient quinine can be administered in 15 grain dosage three times daily after meals for two days and then 10 grains three times daily for 5 days.

Attention is also invited to the not unusual finding of positive Wasserman, Kahn, or Kline tests in malarial patients. Generally speaking, if syphilis is present these tests tend to remain positive in the absence of appropriate therapy. If they are due to the malaria they usually revert to negative in a month or two. Good clinical judgment and a thorough evaluation of all factors concerned will prevent the physician from making a grave diagnostic error replete with social, economic, and mental implications for the patient.

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[3]Most, H., London, I. M., Kane, C. A., Lavietes, P. H., Schroeder, E. F., and Hayman, J. M.: Chloroquine for Treatment of Vivax Malaria, J.A.M.A., 131:963-967, July 20, 1946

Check List for Office Aides

Breaking in a new office assistant? Then this list will help you explain the principal jobs you want her to perform. If you're not making any personnel changes, you'll find the list useful in evaluating the jobs already being done. Here are the main objectives for a good aide to shoot at:

SECRETARIAL FUNCTIONS

1. Write letters that include a touch of personal feeling yet relay a clear business or professional message.
2. Pay bills promptly; get monthly statements out on time.
3. File case histories, financial records, correspondence.
4. Check medical journal items for the doctor's attention.
5. Proofread the medical papers he prepares.
6. Transcribe letters, instructions, and case histories.

NURSING FUNCTIONS

1. Keep examination room immaculate. Sterilize instruments and gloves. Order and check laundry.
2. Budget time; be present at examinations when needed.
3. Prepare women patients for examination.
4. Get such preliminary case history data from patients as the doctor may specify.

RECEPTIONIST FUNCTIONS

1. Manage the office so that patients are kept moving.
2. Maintain a businesslike atmosphere at the reception desk, but be friendly and make patients feel at ease.
3. Be able to explain logically and convincingly the doctor's absence from the office during an emergency.
4. Organize telephone appointment requests and other incoming information for the doctor's quick inspection.
5. Respond to patients' queries sympathetically.
6. Exercise good judgment in handling unscheduled appointments, detail men, and business callers.
7. Know medical ethics; don't reveal case-history details.
8. Remember names, faces, and appointments.—*Med. Economics*

Scirrhous Carcinoma of the Mammary Gland in Mice

By W. F. COLLINS, JR., *and* L. C. STRONG*

From the Department of Anatomy, Yale University School of Medicine

ONE of the earliest descriptions of a tumor originating in the mammary gland of a mouse was made by Crisp in 1854. Little more of importance can be found in the literature concerning this neoplasm until 1906 when Apolant wrote his classic description and proposed a classification of 276 tumors which he had encountered in mice. In the past forty years tumors in mice, especially of mammary origin, have increased in incidence from one of great rarity to supply one of the most important means of studying experimental neoplastic diseases. One of the earliest problems was solved by Bashford and his colleagues when they showed that tumors in mice were not only truly neoplastic but also proved a valid means of studying malignant new growths in species other than in man. Most authors have concluded that the series of mammary tumors occurring spontaneously or produced experimentally in mice (by genetic, hormonal or milk influence) form a single morphological series starting with the relatively benign adenoma, then through an ever-increasing more cellular adenocarcinoma and finally the densely cellular medullary carcinoma. Many, however, show variations in histological detail, being known as papillary adenocarcinoma, papillary cyst adenocarcinoma and papillary cyst adenocarcinoma hemorrhagicum.

The next problem was to increase the number of neoplasms in mice. It was necessary to have sufficient number of tumors available to make the study of them worth while. This was accomplished by the development of inbred strains of mice that proved to be homozygous and gave rise to incidences of mammary tumors up to 90%. During the development of these strains, tumors other than mammary tumors such as adenocarcinoma of the lung, hepatoma and leukemia became more frequent but it was not until the introduction of carcinogenic substances, especially methylcholanthrene, that *it was possible to produce in mice nearly all of the varied types of neoplastic diseases found in man* and with a frequency that made the study of them practical. By the use of methylcholanthrene, the inbred strains of mice, and the genetic means of hybridization and selection, polyzygous strains of mice (with great biological variability) showing high incidences of many different types of tumors have been produced by one of the present authors.

The purpose of this paper is to report a tumor which while prevalent in man has not been reported previously in mice. Almost every type of mammary tumor found in man has been described in mice except the scirrhous carcinoma. In the NHO strain of mice under the influence of parenteral-administered methylcholanthrene scirrhous carcinoma has been found recently. Its incidence has not been calculated but approximates 5% of the mammary tumors occurring in this strain, following the subcutaneous injection of methylcholanthrene. An example of this tumor

*This experiment has been aided by grants from The Anna Fuller Fund and The Jane Coffin Childs Memorial Fund for Medical Research.

and of a human scirrhous carcinoma are presented in this paper and their morphological similarity is at once apparent.

The scirrhous carcinoma of human mammary glands (Fig. 1) is a firm tumor consisting of a large portion of fibrous connective tissue separating small nobules of mammary tissue. The tumor cells are of irregular shape with irregu-

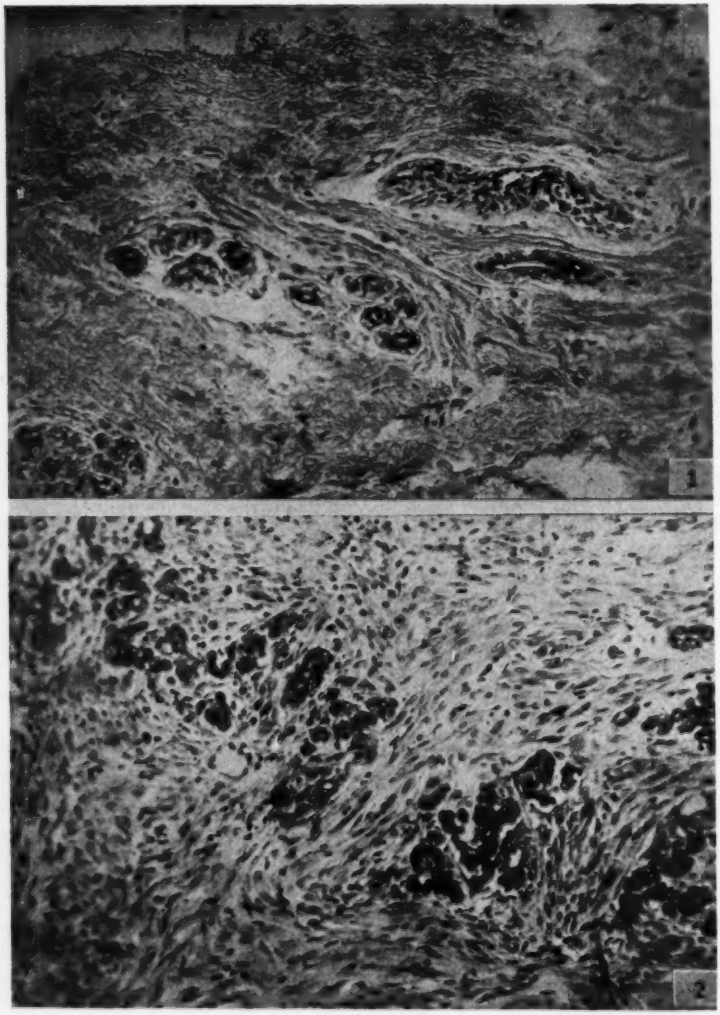

Fig. 1. Scirrhous carcinoma of the breast in a woman 41 years of age. ×150.

Fig. 2. Scirrhous carcinoma of the mammary gland in a female mouse, 308 days following the subcutaneous injection of methycholanthrene. ×150.

lar and eccentrically placed nuclei. There are normal as well as abnormal mitotic figures in these cancer cells. The cells form, for the most part, well demarcated acinar structures that are in close relationship to an interacinar connective tissue that is more irregular and cellular than the surrounding interstitial connective tissue of the tumor. The acini are demarcated, in part, from this interacinar connective tissue by varying amounts of elastic tissue by completeness of this layer of elastic tissue seems to depend on the differentiation present in the acini. Those less differentiated acini lack a complete elastic layer or have groups of cells penetrating this layer with more intimate relationship with the interacinar connective tissue. The connective tissue in this situation is more cellular and seems to invade the proliferating mammary tissue. *The tumor therefore consists of areas of different degrees of malignancy.* The well differentiated acini resemble the normal breast with some increase of elastic and interacinar connective tissue. The undifferentiated cells show more frequent mitoses, more irregularity, absence of the elastic layer or invasion of it, and close relationship with the interacinar connective tissue which has become more cellular and appears to be invading the mammary cells.

In the mouse the scirrhous carcinoma (Fig. 2) resembles the human cancer in that it contains a large portion of fibrous connective tissue. The mammary tissue is much more anaplastic with only infrequently differentiated acinar structures. Mitotic figures are more frequent and isolated tumor cells, while for the most part confined to small groups, can be found scattered in the connective tissue. The connective tissue is more cellular and in more intimate relationship with the mammary tissue than in scirrhous carcinoma of the human breast. The interstitial tissue of the tumor resembles the interacinar connective tissue of the human tumor. The gross morphology is similar and the differences between the microscopic pictures seems to be caused by the greater anaplastic state of the mouse tumor and perhaps to a difference of fixation. This new scirrhous carcinoma in mice apparently does not fall into the older series of mammary tumors found in mice.

Etiologic Factors

Thus it appears evident that scirrhous carcinoma of mammary gland origin has been produced experimentally in mice. The investigation of the older series of mammary tumors in mice has disclosed several factors which are involved in their origin. These are (a) the genetic (b) the milk influence and (c) the hormonal. To these perhaps may be added (d) the physiological use and (e) the dietary. The only physiological factors involved in scirrhous carcinoma in mice so far indicated are (1) genetic and (2) carcinogenic. Perhaps later other influences will be indicated.

Conclusion

This new scirrhous carcinoma in mice is one that should be completely investigated if there is any possibility of the study of an animal tumor throwing any light on one of the dominant malignant tumors found in man.

A notorious rabble-rouser once complained to Benjamin Franklin that the Constitution of the United States was a mockery. "Where is all the happiness it's supposed to guarantee for us?" he demanded.

"All the Constitution guarantees, my friend, is the PURSUIT of happiness", he said, "You have to catch up with it yourself."

Variance of the Hydrogen Ion Concentration in Affections of the Vagina*

By KARL JOHN KARNAKY, M.D., *Houston, Texas*

RAKOFF[1] has reported the hydrogen ion concentration in the mid third of the vagina of 37 normal individuals. In the examination of 67 normal vaginas our findings were:

	Average pH
Posterior fornices	4.37
Anterior fornices	4.26
Left lateral walls	4.34
Right lateral walls	4.46
All areas	4.36

The lowest pH encountered for any area was 3.27 and the highest 4.99.

In the determination of the hydrogen ion concentration of the vaginal fluid of 12 normal macaques throughout 58 menstrual cycles (33 ovulatory and 25 anovulatory), Ch'en Mai and van Dyke found the lowest pH to be 4.20 and the highest 8.60.

A review of the literature reveals that there has not been reported a study of the hydrogen ion concentration of the vagina in acute and sub-acute vaginitis and in acute and chronic endo- and exo-cervicitis. Our present study is concerned with these affections.

pH OF VAGINA IN EIGHT CASES OF VAGINITIS

Average Age 34

Average day of cycle	14
Average pH of Posterior fornix	6.70
Average pH of Anterior fornix	6.41
Average pH of Left Lateral Walls	6.43
Average pH of Right Lateral Walls	6.51
Average pH of all Walls	6.51

*From the department of gynecology, research division, Jefferson Davis Hospital and Baylor University, College of Medicine, Houston, Texas. Permission granted by the research committee, Jefferson Davis Hospital, Houston, Texas.

pH OF VAGINA IN EIGHT CASES OF SUB-ACUTE VAGINITIS

Average Age 36

Average day of cycle	13
Average pH of Posterior fornix	5.69
Average pH of Anterior fornix	5.34
Average pH of Left Lateral Walls	5.53
Average pH of Right Lateral Walls	5.59
Average pH of all Walls	5.54

pH OF VAGINA IN TWENTY-FOUR CASES OF CHRONIC CERVICITIS

Average Age 31

Average day of cycle	27
Average pH of Posterior fornix	5.64
Average pH of Anterior fornix	5.61
Average pH of Left Lateral Walls	5.30
Average pH of Right Lateral Walls	5.43
Average pH of all Walls	5.49

Method

A Beckman pH meter, (calibrated with a known pH 4.64 acetic acid solution at 25.0°C.), to which Rakoff's vaginal electrodes are attached, is used. Then, the temperature control is set at 35°C., the approximate vaginal temperature after insertion of a vaginal speculum.

The vaginal electrode points are placed snugly on the vaginal mucosa in the fornices and on the lateral walls in the middle third, and the pHs read respectively and individually from a calibrated scale on pH meter. The values obtained are called out to a nurse and recorded by her on a card specially printed for this work. Additional data such as the condition of the cervix, vagina, or perineum, is also recorded.

Before the pH readings are taken, a dry, sterile speculum is inserted, and

vaginal secretion obtained with a sterile, cotton applicator from the posterior fornix and lateral vaginal walls. This secretion is sent to the laboratory where another pH reading is then made of the smear prepared from the applicator. A study of the relationship of bacterial flora to the pH is being prepared and will be published in a subsequent paper.

Discussion

Presentation is made of pH determinations in 8 cases of acute vaginitis, 8 cases of sub-acute vaginitis and 24 cases of chronic cervicitis.

A graphic analysis shows the number of times less acid are vaginal areas in affections of the vagina and cervix as contrasted with the same locations in the normal:

It is emphasized that these numbers represent the number of times less acid compared with the normal.

Conclusions

1. The hydrogen ion concentrations of the vagina in 40 consecutive patients with acute and sub-acute vaginitis, and chronic cervicitis were determined by means of a Beckman pH meter with Rakoff electrode.

2. The hydrogen ion concentrations (acidity) of the vagina in these conditions is approximately 4,000 times less than the normal.

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CLINICAL DATA

	Acute Vaginitis	*Subacute Vaginitis*	*Chronic Cervicitis*
Anterior fornices	5,456	5,038	5,249 times less acid
Posterior fornices	4,246	4,062	4,036 times less acid
Left lateral walls	4,534	4,283	4,070 times less acid
Right lateral walls	3,436	3,210	3,095 times less acid

False Positive Wasserman Test

False positive Wasserman tests may be greatly reduced by, first, sending a sufficient supply of blood (10 c.c.) so that several tests may be run.

These questions should be asked: Have you had or been treated for syphilis or gonorrhea? Have you had malaria? Have you had within a month a fever, cold, grip, pneumonia, or severe sore throat? Have you had preventive inoculation within three months? Have you had blood tests before? Results?

A quick physical examination at least should include pupils, skin rashes (with the patient stripped or semistripped) the mucous membrane of the mouth and teeth, the genitalia, the tibias and examination for intercurrent infection; the temperature, pulse and respiration should be taken; the heart and lungs should be auscultated if the examination above is normal.

Nonspecific positives may be suspected if: There is a weak positive or doubtful serologic test result; there is a conflict between precipitation and complement fixation results; even though a repetition is positive, the titer remains low and varied; there is a decline in titer to negative on weekly tests for one to three months, without any treatment.

A syphilitic positive should be suspected if: The original and subsequent reaction are persistently of high or even low titer; the repetitions confirm each other over a three months period; there is clinical or anamnestic evidence of positive weight; the spinal fluid, after the aforementioned blood checks, is definitely abnormal, nor alone with respect to serologic tests.—JOHN H. STOKES, M.D., in *J.A.M.A.* Jan. 12, 1946.

Iron Deficiency Anemias

By ELLERY G. ALLEN, M.D. *Syracuse, New York*

IRON deficiency anemias are characterized by small erythrocytes, erythrocytes containing a poor concentration of hemoglobin per unit volume within the red cells, or both. These circumstances are reflected in a hemoglobin that is reduced out of proportion to the reduction in the red blood count, giving a lowered color index.

Allowing for variations in the normal red cells and for technical errors, one may safely say that the normal color index varies between 0.85 and 1.15. The color index, estimated by dividing the percentage of hemoglobin by the percentage of cells, is found to be below 0.85 in iron deficiency anemias, although one must recall that single blood examinations, even by expert technicians, can never be regarded as accurate. In iron deficiency (also called hypochromic, microcytic) anemia, the color index may occasionally be found to be as low as 0.5, although this is indeed the exception.

Much of our confusion in calculating the color index has resulted from the various hemoglobin standards. To avoid this difficulty, one should use a simple hemoglobinometer reading in grams (the Hellige or the Haden-Hausser are satisfactory) and to regard normal blood as containing approximately 3 grams of hemoglobin per million red cell count. By way of example, if the average red cell contains a normal amount of hemoglobin, a hemoglobin reading of approximately 12 grams would be found in a patient whose red blood count is 4,000,000. Discarding completely the older hemoglobin percentage readings and reading the hemoglobin directly in grams, one can easily and accurately determine the color index by dividing this figure by 3 times the erythrocyte count in millions. Thus, if a patient has a hemoglobin reading of 9 grams and the red count is 4,600,000, the color index may be calculated as follows:

$$\frac{9}{3 \times 4.6} = \frac{9}{13.8} = 0.65$$

Iron deficiency anemias are due to inadequate dietary iron, inadequate absorption of iron from the intestinal tract, or improper utilization of iron already absorbed. *Chronic loss of blood, often unknown to the patient, is probably the most common cause of iron deficiency anemia* and a search for chronic bleeding should be made in all cases with low color index anemia. Inadequate diet should be investigated, as should diseases and functional disorders of the gastro-intestinal tract that may interfere with the absorption of dietary iron. It is well known that hypochlorhydria or achlorhydria may be contributory factors in the production of hypochromic anemia and a gastric analysis should be performed in all cases in whom the etiology is not clear, in addition to careful x-ray examinations of the gastro-intestinal tract. Stool examinations for evidence of blood loss and parasitism are always in order.

Nearly all patients with iron deficiency anemia respond to the oral administration of iron, provided chronic bleeding, if present, is arrested and conditions in the gastro-intestinal tract that may interfere with iron absorption are remedied. Occasionally one sees cases in whom the dietary iron is insufficient, this being particularly true in infancy, in the latter months of pregnancy, and during long, febrile illnesses, etc. Rarely one sees rather severe iron deficiency anemia in myxedema or in chronic lead poisoning. Failure of a low color index blood to respond to oral

iron, provided the causes of the original hypochromia can be removed, are indeed rare, although the cases of Cooley's erythroblastic anemia are a notable exception.

The physical examination, except for the pallor and other signs of anemia, yields no special diagnostic information. Women are more likely to exhibit this type of blood, probably because of the menstrual loss, and some patients show glossitis, spoon-shaped nails, etc. In very rare cases the spleen may be palpable. Neurologic signs are not to be expected, in contrast to pernicious anemia.

Treatment of this type of anemia is usually satisfactory, as has been previously stated, provided the cause is discovered, the causes removed and adequate iron given by mouth. Parenteral injections of iron are never indicated, I believe. Several satisfactory preparations of oral iron are in general use, although my own preference is ferrous sulphate, in doses of 9 to 15 grains, daily.

922 State Tower Building

Determining Bleeding and Coagulation Time

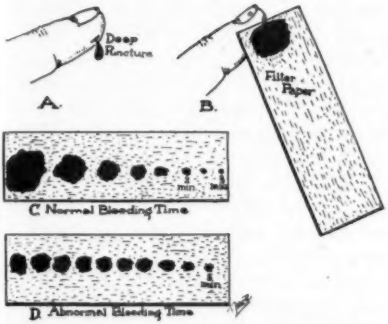


Fig. 1. A deep puncture is made in finger tip or lobe of ear. Every half minute the slowly forming drops of blood are blotted up with a piece of filter paper or hemoglobin paper. The *normal bleeding time* is from one to three minutes, as shown in (C). (D) illustrates a case of prolonged bleeding time.

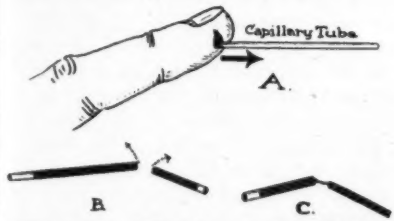


Fig. 2. *Coagulation time* is determined by using a capillary tube, and breaking off sections every 30 seconds until the fibrin thread is clearly seen between the broken ends, as in C.

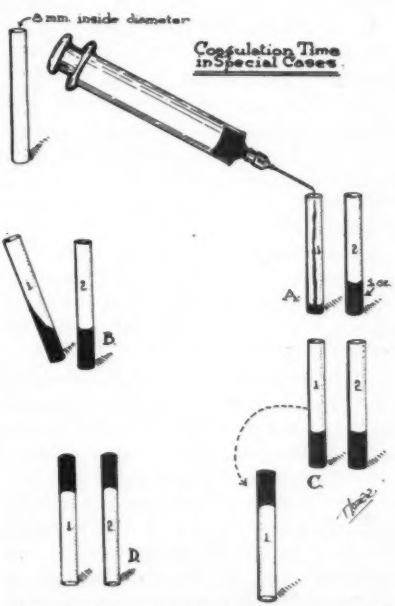


Fig. 3. Two cc. of blood are withdrawn by a syringe and needle freshly washed with normal saline solution, and 1 cc. put into each tube. Every 15 to 30 seconds, tube number 1 is tilted slightly (B) until the blood will not flow even when turned upside down (C). Then tube number two, which has not been handled hitherto, is inverted (D) and the total time recorded as the *coagulation time*. Normal is 6½ minutes, ranging from 5 to 8.

The Inter-American Cooperative Health Program

By RICHARD J. PLUNKETT, M.D.
Director, Div. of Health and Sanitation, The Institute of Inter-American Affairs

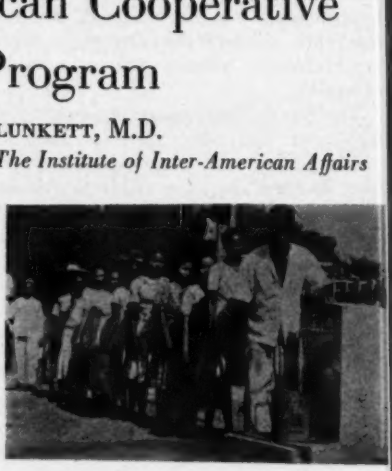
DOCTORS, engineers and nurses from the United States are working closely with public health leaders in the other American republics to improve the health of the people of the western hemisphere. Operating as an integral part of National Departments of Health, Inter-American Cooperative Health Services have been strengthening and extending health programs in eighteen countries since February, 1942.

The Cooperative Health Services have provided improved facilities for preventive and therapeutic care, including 112 demonstration health centers, and 75 hospitals, tuberculosis sanatoria, and leprosaria. Additional health personnel are being prepared through local training programs which include aid in the development of sixteen schools of nursing, and short courses for physicians, engineers, nurses, sanitarians, midwives, laboratory technicians and hospital administrators, as well as through the provision of fellowships for study in the United States.

Sanitary engineers are directing the installation of water supplies, sewerage systems, and mosquito control drainage and assisting in the extension of rural sanitation with well and privy building.

Organized health education programs for the lay public are recognized as basic in obtaining the support and understanding of the people, without which no health work can progress with real efficiency.

The study and control of such diseases as malaria, yaws, schistosomiasis, Chagas disease, typhus fever and onchocerciasis are important phases of the work.



People Waiting in Line for Water at "Torneira Publica," Abaetetuba, Brazil

The idea that it is important not only to cure the sick, but also to keep the well healthy, is less well appreciated in outlying towns of South America than in the U. S. This entails the control of the spread of tuberculosis and venereal disease by isolation and treatment of cases and by the study of contacts of cases with the follow-up of the infected and the exposed. Prenatal and postnatal care for the mother, the health supervision of the infant, the pre-school child and the school child include routine examination, instruction, immunization and constant watchfulness, not primarily to cure, but basically to prevent the inroads of sickness and poor health.

The activities of the Cooperative Health Services in the small Brazilian town of Abaetetuba may be used to exemplify this phase of the program. Abaetetuba on a branch of the Amazon River is a town of about 3,000 people who follow perforce the leisurely existence of the tropics. Some of them are rubber tappers; others collect the nuts that are shipped away for use as delicacies or floor wax. The Abaetetubans

grow a lot of bananas, sugar cane and manioca. Some preside over the stalls in the markets or are the shopkeepers of the stores, with their limited supplies of groceries and drygoods that have come thousands of miles across Brazil.

In the past the muddy waters of the river were not only the main artery of transportation but also the latrine, the laundry, the bath and the chief source of drinking water. The private wells were all unprotected and polluted; the privies unsanitary. Waterborn diseases helped to keep the people listless and apathetic.

Now the town of Abaetetuba boasts a deep well of safe water with pumps that send the supply to 42 faucets that are strategically located all over town. No one has to trudge to the river for his daily supply of water. The children line up all day long with their tins and gourds and run the short distance home. Everyone has more water to drink, more water with which to bathe and to wash his clothes. And it's safe water.

This water supply cost $3,000. It was not provided by a Santa Claus from the North. The state paid one-fourth of its cost, the town paid one-fourth, and combined funds from the governments of Brazil and the United States made up the other half. Since Abaetetuba got its water supply, the mayor of the neighboring town of Macapa has asked if the Cooperative Health Service will supervise construction of a water supply for his town if the town provides all of the money. The demonstration sells the idea, and sanitation in South America is receiving increasing impetus.

There are 400 sanitary privies built in back of the little thatched houses that stand on their high stilts. And there is a new health center. It is a simple, functional building of cream-colored plaster with a red tile roof and a plaque that states it has been provided by the Special Health Services as a symbol of the cooperation between the people of the United States and Brazil. There are two doctor's offices, four examining rooms, headquarters for the sanitarians and the visiting nurses, a laboratory, a record room and a waiting room that can be used as a community auditorium. The health center personnel have taken a census, they carry out campaigns against the prevalent maladies, strive constantly to educate the people in the causes and control of sickness, conduct clinics for mothers and babies and treat the infectious diseases whose control lies in their cure. The doctor and his wife who live in the health center are true crusaders. The visitadoras or visiting nurse aides are young girls from the Valley who received a six months' course in the fundamentals of maternal and infant hygiene, environmental sanitation and health education. Their work is largely teaching and demonstration. They are intelligent, enthusiastic girls who get a lot of satisfaction out of the fact that they have an important share in the job of bringing health to Abaetetuba.

This is one of the seventy-two health centers now being operated by the Cooperative Health Services throughout the other Americas. They are not by any means the first in Latin America. The governments of Latin America are increasingly health minded. But the problem is terrific where the standard of living is very low, too few trained personnel and not enough experience.

The foremost necessity and what we must stress and depend on most for future progress is basic education in personal hygiene and hygienic living generally for the mass of the people. The Inter-American health program is directed towards the control and reduction of infectious disease and towards the elevation of health standards throughout the hemisphere. Cooperative public health is not only a sound basis for increased trade and commerce, but has already proved to be an efficient means of cementing friendship, understanding and good will.

Answer to Seminar Problem*

By PINSON NEAL, M.D.

RECAPITULATION

A white male, age 32. There was a history of bleeding at intervals for more than three years, which at times had been severe, from the rectum. At other times it had resulted from injuries but was never severe. He stated that he had been termed a "bleeder" by different physicians.

"Air hunger" was noticed only following the severe hemorrhages.

Past history was essentially irrelevent. He was hospitalized at this time because of severe bleeding from the gastro-intestinal tract over a period of several days and for a transfusion of whole blood.

Examination—The patient appeared severely exsanguinated, was oriented, conscious, with the skin white to ochre in appearance, moist, and lips colorless, and there was a body temperature of 100° F., pulse of 104, and a respiratory rate of 32. Slight exertion caused pulse and respiratory rates to increase. The red blood cell count was 1,300,000, with hemoglobin 20 per cnt (Dare). There was administered intravenously 800 cc. of citrated blood. He was permitted regular diet, and the immediate course was uneventful.

He was rehospitalized 4 times over a period of 2 years. Admission record on each of these occasions bore the previous chief complaints of weakness and bleeding, and he was termed a "hemophiliac." The bleeding was consistently from the gastro-intestinal tract. Repeated Kahn tests and urinalyses were negative. The total red blood cell counts and hemoglobin values were regularly far below normal. The blood coagulation time on two different occasions was recorded as "complete in two minutes" and "complete in three minutes." Coincident bleeding time was "six and one-half minutes and four minutes." Stained blood films frequently revealed marked anisocytosis with microcytes, marked poikilocytosis but without diagnostic forms, moderate poly-chromatophilia, and a new normoblasts.

The last admission followed severe hematemesis, with much abdominal discomfort. There was administered promptly 1000 cc. glucose solution and adrenalin. While preparations were being made for transfusion, the patient expired.

DISCUSSION NO. 1

Although the bleeding apparently had always been from the rectum, which suggests a lesion in the gastrointestinal tract, the patient was rather perfunctorily diagnosed as a hemophiliac. I would suggest a thorough x-ray and proctoscopic examination of the bowel in search of a peptic ulcer or bleeding tumor of the colon.—Capt. M. H., M.C.

DISCUSSION NO. 2

This seems to be a typical example of sloppy history taking and unwillingness to think.

French's "Differential Diagnosis" lists the following causes of obvious red blood passed per anum:

1. *Anal causes:* Hemorrhoids, fissure, fistula, foreign body.

2. *Rectal causes:* Carcinoma, polyp, tuberculous or syphilitic ulcer, proctitis, rectal invasion by bladder cancer, uterine cancer, pelvic sarcoma, pelvic abscess, actinomycosis, Bilharzia.

3. *Colonic causes:* Carcinoma, acute or chronic diverticulitis, polyp, tuberculous ulcers, intussusception, amebic or bacillary dysentery, ulcerative or acute non-ulcerative colitis, actinomycosis of cecum, thrombosis of mesenteric vein or embolism of mesenteric artery, abdominal injury external or

*Original problem appeared in *Clin. Med.* Oct., 1945. p. 290.

after sigmoidoscopy, irritant drugs, oxyuris.

4. *Ileum:* Intussusception, typhoid, dysentery, thrombsis or embolism, injury, infected umbilical cord after birth.

5. *Jejunum:* Peptic ulcer, gastrojejunostomy.

6. *Duodenum:* Ulcer (peptic) injury, cancer (rare), ankylostomiasis. *Gastric:* Same, except sarcoma is added.

7. *Esophagus:* Hepatic cirrhosis. 8. *Swallowed blood* due to epistaxis, hemoptysis, ruptured aneurysm.

8. *General infections* as cholera, typhoid fever, yellow fever, septicemia; scurvy, pernicious anemia, leukemia, jaundice.

The condition is probably the result of a bleeding polyp, ulcer or cancer of the gastrointestinal tract.—J. McC., M.D.

DISCUSSION NO. 3

Although I have no literature available here, to refresh my memory, it seems to me that hemophilia is a guess rather than a diagnosis, and a poor guess at that.

From the clinical standpoint, true hemophiliacs have trouble with bleeding into joints, especially the knee joints, they bleed from the gums after extractions, in fact, they can bleed from anywhere. This patient does not give a history of such bleeding at intervals since birth. The fact that he is 32 years old also makes the diagnosis unlikely.—Max S., M.D.

DISCUSSION NO. 4

Meakin's ("The Practice of Medicine"—Ed.) section on hemophilia states, "The symptoms are intractable bleeding such as may result from a cut, a scratch, the removal of a tooth or tonsil, circumcision or other procedure. Hemorrhages occur into the subcutaneous tissue, the muscles and the joints on the slightest trauma . . . The cause of the bleeding is due to a greatly prolonged coagulation time of the shed blood. The bleeding time is not prolonged, and the platelets are normal in number. A firm clot is produced, with normal retraction."

Hemophilia is therefore excluded from consideration, as this patient gave no such history, and the coagulation time was always normal.

If his epigastric pain was relieved by food, one could almost make the diagnosis of peptic ulcer.—H. D., M.D.

DISCUSSION NO. 5

This unfortunate individual did not seem to meet any physician who was interested in making a diagnosis. Without even referring to the laboratory findings, the diagnosis of hemophilia could be ruled out because: (1) hemophilliac bleeding does not arise from mucous membranes, (2) there is no history of spontaneous bleeding into joints, body cavities or subcutaneously, and (3) his bleeding is consistently from the stomach or intestinal tract.

In a young male, the most common cause of profuse, repeated hemoptysis is *peptic ulcer* of the stomach or duodenum. Apparently, no x-ray examination was carried out. The lack of a history of cyclical epigastric pain is not important, as gastric or duodenal ulcers may be symptomless for years and may rupture without the patient having been aware that any previous disease existed.

The typical blood findings in hemophilia are here contrasted with those shown by this patient:

Test	*Hemophilia*	*Diagnostic Problem*
Coagulation Time	Increased	Normal
Bleeding Time	Normal	Normal
Platelet Count	Normal	Not given
Capillary Resistance	Normal	"
Clot Retraction	Normal	"
Prothrombin Time	5 to 25 times the normal	"

"Coagulation time, when the blood is taken from the vein, is *prolonged 5 to 15 times the normal*, and may be 1 to 5 hours. When blood is secured from a

skin puncture, the *coagulation may be normal* due to coagulation-accelerating substances of the tissue juice." (Regena Beck: "Laboratory Manual of Hematologic Technic" 1938, Saunders Co.)

"Obstinate hemorrhage is more often due to local disease or injury than to blood abnormalities, and the mere fact that bleeding persists does not justify a diagnosis of hemophilia. The diagnosis depends on the family history, the occurrence of repeated bleeding which is usually protracted and from *more than one location*, joint manifestations and the blood coagulation time." (R. L. Cecil: "Textbook of Medicine" 1940, Appleton & Co.)

Other causes of hematemesis are: (1) cirrhosis of the liver, with hemorrhage from enlarged veins in the esophagus or stomach wall, (2) carcinoma of the stomach—severe hemorrhage is uncommon, (3) carcinoma of the esophagus, (4) chronic myeloid leukemia, and rarer causes.

Probable cause: Peptic ulcer.

Suggested treatment: Injections of liver extract, frequent small transfusions and later resection of the stomach. —R. L. G., M.D.

DISCUSSION AND ANSWER

By Pinson Neal

A blood coagulation time of 2 minutes and on another occasion of 3 minutes definitely eliminates hemophilia, in spite of the history of repeated bleeding and a clinical diagnosis of that disease. A bleeding time of 6½ minutes and on another occasion of 4 minutes eliminates purpura. A platelet count and a clot retraction to determine the time of retraction and firmness of clot would have materially aided in ruling out the so-called hemorrhagic diseases. The repeated hemorrhages from the gastrointestinal tract as hematemesis and bloody stools, with digestive disturbances and gastric pains, called for investigation, notably by gastric analysis and x-ray studies.

Autopsy revealed massive and ancient adhesions about pylorus, duodenum, gall bladder, and liver; stomach contained 500 cc. of coffee ground material in which were dark brown clots; and the intestines were filled with clots and fluid blood. Proximal to the pyloric ring on the anterior gastric surface, was an ulcer having indurated edge and measuring 1 cm. wide and 4 cm. long. In the floor of this, a number of small blood vessels, some of which were thrombosed, were demonstrable. In the duodenum, 10 cm. distal to the pyloric ring was a second ulcer 5x8 mm. having a granular floor and an attached red clot. There were secondary changes, such as fatty degeneration of liver, myocardium and kidney, incident to the anemia.

Diagnosis (Autopsy):—Gastric ulcer, pyloric end, with thrombosed and eroded vessels in the floor; duodenal ulcer with eroded vessels; posthemorrhagic anemia, severe, with secondary changes in visceral organs. The multiple chronic ulcerations with erosions into vessels were responsible for the repeated hemorrhages, and the entire sequence of events.

It is when we try to grapple with another man's intimate need that we perceive how incomprehensible, wavering, and misty are the beings that share with us the sight of the stars and the warmth of the sun.—Joseph Conrad.

Varicose Veins

Ligating the saphenous vein at its juncture with the femoral vein is a proven procedure in the treatment of leg varicosities and prevention of recurrences. If in addition, many varices can be treated simultaneously the patient is spared most of the local injections. Eugene de Savitsch, M.D. of Washington suggests a very efficient method (*Medical Annals of District of Columbia*, Dec. 1945). A ureteral catheter is introduced into the saphenous vein; by moving it up and down, valves and bifurcations may be bypassed and the catheter passed down to the ankle. An injection of 50 cc. of 50 percent glucose solution is given as the catheter is withdrawn. This effective but nontoxic solution is distributed by having the patient walk around before applying elastic bandages.

Clinical Medicine has drawn up a step-by-step series of sketches to illustrate this technic clearly. The original illustrations are by T. Lozier, Staff Artist.

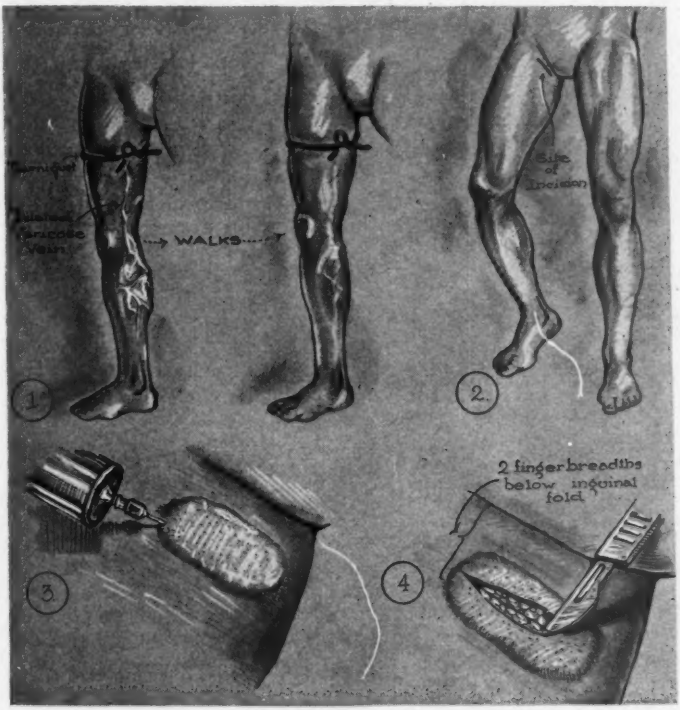


Fig. 1. Before treating varicose veins, one must be sure that the deep veins are open. One simple method is to tie a tourniquet snugly around the upper thigh and to have the patient walk about. If the deep veins are patent, the patient does not have pain and the varicosities empty. (Perthe's test).

Fig. 2. Locating the incision parallel to the inguinal fold and 2 fingerbreadths below it. To find the vein, feel for the pulsation of the femoral artery and remember that the vein is just medial to the artery. The operative position, with the leg everted and the thigh abducted, is shown.

Fig. 3. Infiltration of skin with 1 percent procaine solution.

Fig. 4. The skin incision is 2 inches in length.

Varicose Veins

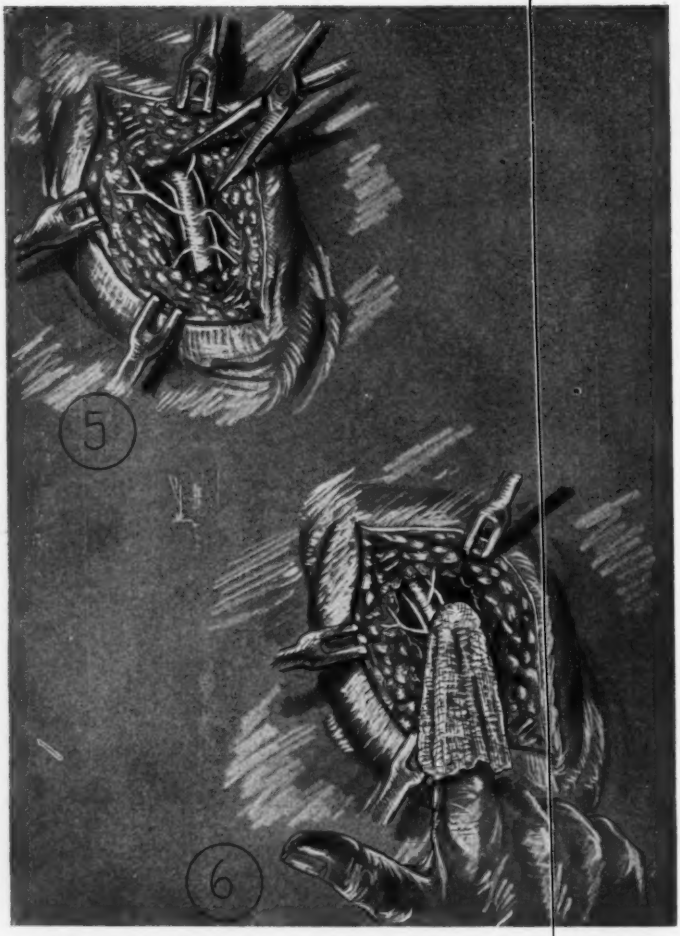


Fig. 5. Blunt dissection is made with a hemostat down to the saphenous vein one-half inch below.

Fig. 6. The vein is separated from the tissues with a gauze covered finger; do not push the tissues upward as a thrombus may result.

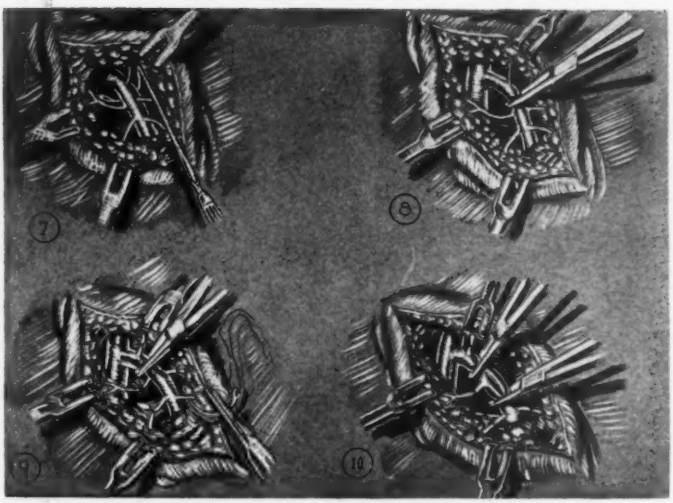


Fig. 7. The vein is elevated with an aneurysm needle.
Fig. 8. A hemostat on the most proximal portion of the saphenous vein may be used to exert traction while dissecting out its branches.
Fig. 9. Each branch of the saphenous vein is penetrated with a needle, threaded with a silk suture, and ligated.
Fig. 10. An incision is made into the saphenous vein.

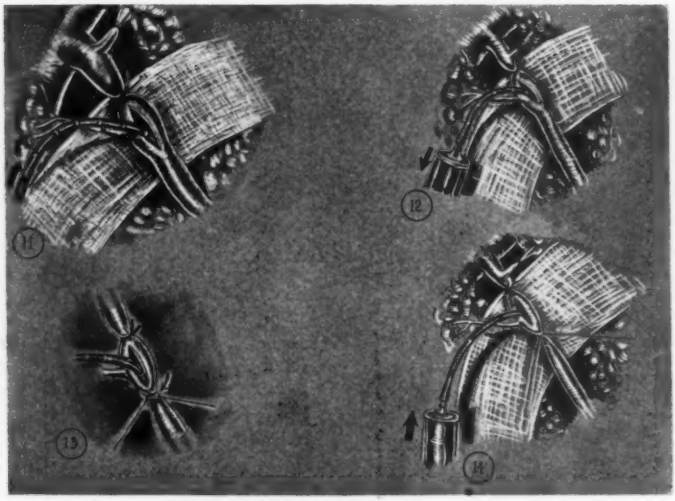


Fig. 11. A *ureteral* catheter of small size is inserted into vein incision. Gauze is placed beneath the vein, to protect the tissues.
Fig. 12. Proof that the catheter is in the lumen of the vein is obtained by aspirating blood. By moving the catheter up and down and by rotating it, it is often possible to work it down the leg as far as the ankle.
Fig. 13. The catheter is retained in place with a single knot ligature.
Fig. 14. 50 percent glucose solution in an amount up to 50 cc. is injected into the catheter.

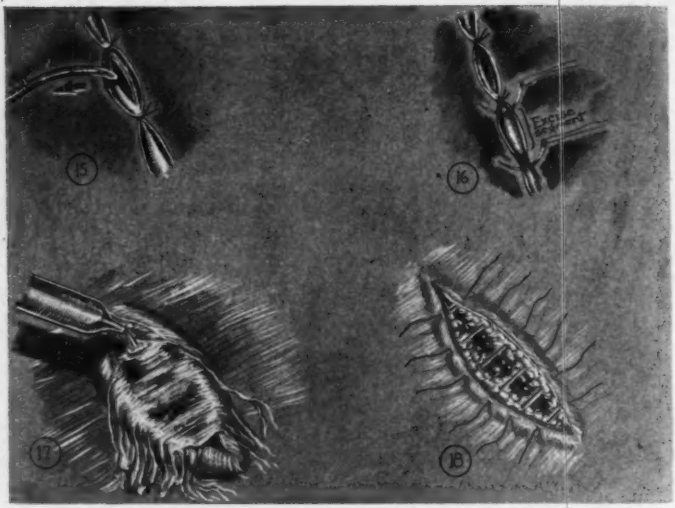


Fig. 15. The catheter is removed and the vein ligated below the incision.

Fig. 16. The saphenous vein is transfixed with silk and ligated. The intervening segment of vein is excised.

Fig. 17. The wound is irrigated with sterile physiologic saline solution.

Fig. 18. The wound is closed with several subcutaneous sutures and interupted silk sutures in the skin.

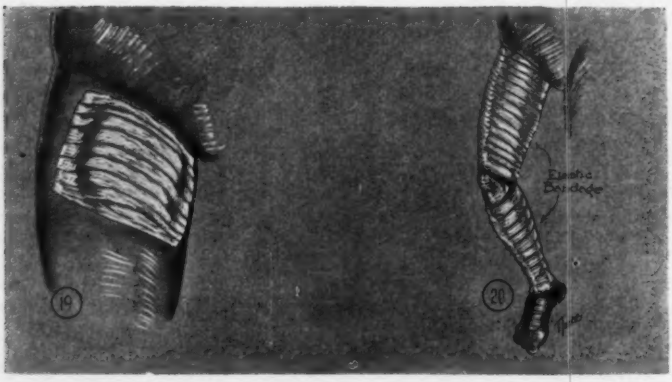


Fig. 19. The wound is dressed with dry gauze and elastic adhesive, making sure to avoid the inguinal fold.

Fig. 20. The patient walks around for a minute or two, to distribute the sclerosing solution to the smaller branches of the saphenous. An elastic bandage of the "Ace" type is applied from the foot to the thigh. The knee is not covered. The patient is ambulatory and may return to usual activities. Medication for pain is provided. The elastic bandage is removed after 3 days and the sutures left in place 7 to 10 days.

If any varicosities are visible at the end of 6 weeks, they are injected locally, beginning with the most dependent portion.

Appendicitis III: Graduate Course

Clinical and Anatomical Correlations

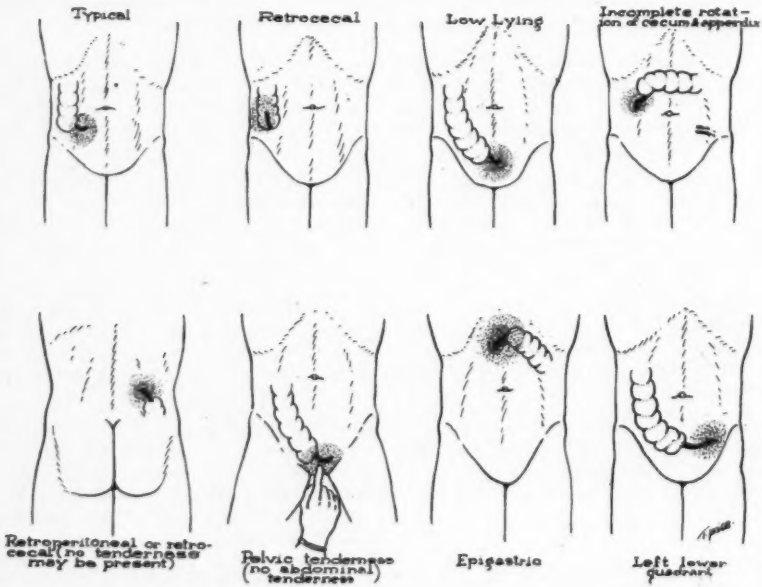
Clinical Considerations	Anatomy and Pathology
1. Finding the appendix.	1. Follow the taenia coli to the base of the appendix, which may be buried in adhesions or abnormally placed.
2. Relationships of the appendix.	2. Normal anatomy of the appendix.
3. The appendicular artery is an end (terminal) artery so that its obstruction or thrombosis leads to gangrene of the appendix. Be sure that the appendicular artery is ligated and included in the figure of eight or purse string inversion, to avoid later bleeding into the gut.	3. Blood supply of the appendix: The appendicular artery is a branch of the ileocolic artery, which also supplies the ileum and cecum. If this artery is injured, as in dissecting free a large lymph node or in freeing extensive adhesions, the circulation of the bowel is cut off and gangrene will follow unless the gut is exercised.
4. The retro-colic or retrocecal appendix may be difficult to expose. The cecum may be moved medially or superiorly with the gloved hand or traction may be maintained by a linen band around the cecum.	4. The peritoneum and fascia bind the cecum and ascending colon to the posterior abdominal wall. This fascia may be incised to roll the cecum medially and visualize a retrocolic appendix (or as the first step in ileocolectomy).
5. Appendicits during infectious diseases. The large amount of lymphoid tissue is readily involved by tonsillitis, typhoid fever, enteritis, measles, scarlet fever, influenza (Babcock).	5. A cross section of the appendix usually will show numerous lymphoid nodules in the mucosa, which closely resemble the follicles surrounding the tonsils.
6. Pain is the dominant symptom in appendicitis except in the aged, and the very young. (Pain is generalized) due to lack of localization which in turn is due to lack of myelinization.	6. The submucosa is normally of dense fibrous structure (Bell), which resists distention. Any bowel pain is the result of distention.
7. Appendicitis is a minature intestinal obstruction, in most cases. This accounts for the lack of tenderness early in the disease and also for the later development of fever and leukocytosis.	7. Obstruction of the appendix may be due to edema of the thick mucosa, kinking or impaction of a fecalith or foreign body. Often the tip will be gangrenous yet the base be normal.
8. A chill occurring during appendicitis should make one: (1) Question the diagnosis and (2) suspect blood stream involvement.	8. The veins of appendix and cecum and in the ileocolic vein, which joins the superior mesenteric vein and helps form the portal vein. Infection can be carried from appendix directly to the liver (pylephlebitis, liver abscesses).
9. The psoas and quadratus tests for appendicits. Flexion of the right hip in cases of acute appendicitis.	9. The cecum and appendix rest upon the psoas (iliopsoas) muscle. Movement of the ilipsoa causes pain in acute appendicitis, which is relieved by flexing the hip and thus relaxing the muscle.

Appendicitis: Postoperative Fluids

If the patient excretes 1,000 to 2,000 cc. (1 to 2 quarts) of urine daily, he is receiving adequate fluids postoperatively. Blood plasma is often necessary.

Appendicitis: Dehydration

The patient lacks sufficient fluids if (a) he does not urinate 1,000 to 2,000 cc. daily, (b) if his red blood cell count is abnormally high or (c) if his tongue is dry.



Tenderness in Appendicitis

Tenderness may be present anywhere in the abdomen, pelvis or right lumbar area.

Management of the Appendiceal Stump

Leaking of the fecal material is more common than is reported. It is probably responsible for the occasional stormy post-operative course, of an interval for "chronic" appendicits, or incidental appendectomy (slight unrecognized leak).

Experiments: 1. Tie and drop method is objectionable because the appendix sloughs distal to the tie and at the point of the tie; no healing takes place until this slough is removed. Four or 5 days later, a mass of fibrinous adhesions joining the ileum or omentum to the stump area is found. Gentle squeezing of the cecum causes fecal material to escape from the insecurely healed stump. This means that for the first few days there is a distinctly weak area in the cecal wall, which might give way on marked distention, straining or a "high" enema. There is no weakness at the end of three weeks.

2. Inversion of unligated stump produces seroas to seroas apposition, and avoids any pocketing in the cecal wall. If *inversion* could always be made safely, this is the method of choice. There is the best healing of any of the experiments with little or no adhesions on the outside and but slight sloughing on the inside.

3. Inversion of tied stump produces a pocket in the cecal wall that contains the necrotic appendiceal stump. Moderate adhesions on 4th and 5th days, but no weak spot. "Necrotic tissue and abscess formation in every instance" but cecal wall intact.

4. Technic always applicable: All vessels tied. Purse string exactly at base of appendix (00 chromic catgut), tied tightly and cut. Cotton or silk purse string in cecal wall, closer than usual as stump is to be smaller. Appendix crushed with Ochsner clamp just distal to purse string of catgut, then excised, through the dry groove left by the clamp. Invert stump by cotton purse string, then insert a mattress suture or 2 or 4 bite purse string suture (in seroas and outer muscularis only) to turn in more peritoneum at the critical point of inversion. No danger if fine, straight needle is used and fine suture (15 neg. cultures). — JOHN V. GOODE and L. A. KREGEL, M.D.s., Dallas, Texas. University Surgery, June, 1943.

Pelvic Appendicitis

Examination of the rectum with the finger is made, the patient having both thighs flexed on the abdomen. Such a position will relax the pelvic tissues and will enable the examiner to palpate the entire pelvic brim, as well as the cul de sac area. The presence of acute appendicitis will be revealed by thickening of the tissues and soreness in the area of the appendix. In pelvic appendicitis the patient may state that, simultaneously with the initial abdominal pain there was desire to empty the rectum or the bladder. — DAN C. DONALD, M.C., 918 South 20th Street, Birmingham, Ala.

Treatment Error

The surgeon who drains an abdomen in acute appendicitis immediately doubles the risk of a complication, aside from trouble with the wound which is nearly always present in some degree. Rather than increasing the life expectancy of the patient, he definitely lowers it. When the abdomen is drained the morbidity is prolonged and mortality is increased. Drainage of the abdomen in acute appendicitis should be restricted to the use of localized, walled-off abscesses. — A STRAUSS, M.D., Surgical Service, Mt. Sinai Hospital, Cleveland, Ohio.

Appendicitis Complications: Surgical Technic

Essentials:

1. Do not rupture during removal.
2. If ruptured, do not spread the contaminating agent.
3. Limit the operative field to as small an area as possible about the appendix base.
4. The region within the angle made by the ileum and the ascending colon, filled with loops of small intestine, should

be carefully excluded from the operative field and no drains should be placed there because they tend to catch and angulate loops of small bowel and result in obstruction.

5. Spinal anesthesia, if a competent anesthetist is available, to produce relaxation and quiet the intestines.

6. *Long* (right rectus) *incision*, so that the operator may.

7. Visualize the cecum and wall it off with wet pads; wall of the small bowel.

8. If completely gangrenous, and base is indurated, tie with moderate tightness, invert with catgut sutures and reinforce with tabs of epiploic appendages to cover the base. A mattress suture may be needed, to prevent rupture.

9. Visualize the appendix; a retrocecal appendix may be seen by incising the external leaf of the lateral peritoneum, roll the cecum toward the midline and expose the appendix in its full length.

10. If the appendix is adherent at its tip to the posterior abdominal wall, visualize the tip and separate it gently with the suction tip; should there be an escape of pus, it can be immediately sucked up.

11. One drain, cigarette type, placed between the external wall and the external parital peritoneum; not removed for 7 to 8 days, then completely and a rubber dam or catheter to the bottom. —F. H. LAHEY *(Surg. Clin. N. Am.)*, June 1942.

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EDITORIALS

Dosage Equivalents

The attached table of Metric Doses with Approximate Apothecary Equivalents was prepared and is issued jointly by the United States Pharmacopoeia, the National Formulary, and the New and Nonofficial Remedies of the American Medical Association, with approval of the Federal Food and Drug administration.

Recent action by the American Medical Association in adopting the metric system for its New and Non-official Remedies and other publications, and general recognition of the desirability and wisdom of such a policy in all of the related fields of medicine and pharmacy, led to the preparation of this table as a means of placing primary emphasis upon metric rather than upon apothecary doses and simplifying the former. Heretofore, metric doses were usually based upon a primary apothecary dose and were relatively accurate equivalents. For example, 32 milligrams and 325 milligrams were considered as dose equivalents for ½ grain and 5 grains respectively. However, when one thinks primarily in terms of the metric system the logical doses in the above cases become 30 mg. and 300 mg., both of which will be just as efficient therapeutically as were their counterparts, 32 mg. and 325 mg.

When prepared dosage forms such as tablets, capsules, pills, etc. are prescribed in the metric system, the pharmacist may dispense the corresponding approximate equivalent in the apothecary system, and vice versa, but for the conversion of specific quantities in a prescription which requires compounding, or in converting a pharmaceutical formula for one system of weights or measures to the other, exact equivalents must be used.

It is hoped pharmacists and manufacturers will lend their cooperation in assisting physicians in the use of the metric system.

The Etiology of Ascites

The etiology of ascites in over 3000 cases was determined at autopsy as follows (Cabot):

Etiology	*Number of Cases*
Cardiac failure	1397
Cardio-renal disease	665
Cirrhosis	325
Tuberculous peritonitis	263
Carcinoma of various abdominal organs	97
Intestinal Obstruction	86
Carcinoma of the peritoneum	53
Ovarian cysts and fibromas	41
Adherent pericardium	36
Ovarian carcinoma	21
Pernicious anemia	15
Leukemia	12
Portal or mesenteric thrombosis	10
Hodgkin's disease	5
Syphilis of the liver	4

Solid Tumors in Children

Every solid mass in an infant or child should be regarded as malignant and should be removed in its entirety for histologic examination and determination of its exact nature. In determining the prognosis, a knowledge of the life history of the tumor is of greater importance than the histologic picture alone. Physician should avoid unnecessary manipulation and palpation of the mass before operation. Complete operative removal of the tumors is indicated after a brief period of study. The operator should be familiar with the special surgical technics developed for the treatment of malignancy in infants and children. Post-operative treatment is important. Radiation, prior to operation, is advisable, only to reduce the size of the tumor, if it is too large for excision.—Sydney Farber, M. D., Pathologist, Children's Hospital, Boston, Mass.

Table of Metric Doses with Approximate Apothecary Equivalents

The *approximate* dose equivalents in the following table represent the quantities which would be prescribed, under identical conditions, by physicians trained, respectively in the metric or in the apothecary system of weights and measures.

When prepared dosage forms such as tablets, capsules, pills, etc. are prescribed in the metric system, the pharmacist may dispense the corresponding *approximate* equivalent in the apothecary system, and vice versa, as indicated in the following table.

For the conversion of specific quantities in a prescription which requires compounding, or in converting a pharmaceutical formula from one system of weights or measures to the other, *exact* equivalents must be used.

Liquid Measure		Liquid Measure	
Metric	Approximate Apothecary Equivalents	Metric	Approximate Apothecary Equivalents
1000 cc.	1 quart	3 cc.	45 minims
750 cc.	1½ pints	2 cc.	30 minims
500 cc.	1 pint	1 cc.	15 minims
250 cc.	8 fluidounces	0.75 cc.	12 minims
200 cc.	7 fluidounces	0.6 cc.	10 minims
100 cc.	3½ fluidounces	0.5 cc.	8 minims
50 cc.	1¾ fluidounces	0.3 cc.	5 minims
30 cc.	1 fluidounce	0.25 cc.	4 minims
15 cc.	4 fluidrachms	0.2 cc.	3 minims
10 cc.	2½ fluidrachms	0.1 cc.	1½ minims
8 cc.	2 fluidrachms	0.06 cc.	1 minim
5 cc.	1¼ fluidrachms	0.05 cc.	¾ minim
4 cc.	1 fluidrachm	0.03 cc.	½ minim

Weight		Weight	
Metric	Approximate Apothecary Equivalents	Metric	Approximate Apothecary Equivalents
30 Gm.	1 ounce	40 mg.	⅔ grain
15 Gm.	4 drachms	30 mg.	½ grain
10 Gm.	2½ drachms	25 mg.	⅜ grain
7.5 Gm.	2 drachms	20 mg.	⅓ grain
6 Gm.	90 grains	15 mg.	¼ grain
5 Gm.	75 grains	12 mg.	⅕ grain
4 Gm.	60 grains (1 drachm)	10 mg.	⅙ grain
3 Gm.	45 grains	8 mg.	⅛ grain
2 Gm.	30 grains (½ drachm)	6 mg.	1/10 grain
1.5 Gm.	22 grains	5 mg.	1/12 grain
1 Gm.	15 grains	4 mg.	1/15 grain
0.75 Gm.	12 grains	3 mg.	1/20 grain
0.6 Gm.	10 grains	2 mg.	1/30 grain
0.5 Gm.	7½ grains	1.5 mg.	1/40 grain
0.4 Gm.	6 grains	1.2 mg.	1/50 grain
0.3 Gm.	5 grains	1 mg.	1/60 grain
0.25 Gm.	4 grains	0.8 mg.	1/80 grain
0.2 Gm.	3 grains	0.6 mg.	1/100 grain
0.15 Gm.	2½ grains	0.5 mg.	1/120 grain
0.12 Gm.	2 grains	0.4 mg.	1/150 grain
0.1 Gm.	1½ grains	0.3 mg.	1/200 grain
75 mg.	1¼ grains	0.25 mg.	1/250 grain
60 mg.	1 grain	0.2 mg.	1/300 grain
50 mg.	¾ grain	0.15 mg.	1/400 grain
		0.12 mg.	1/500 grain
		0.1 mg.	1/600 grain

Note—A cubic centimeter (cc.) is the approximate equivalent of a milliliter (ml.).

The above *approximate* dose equivalents have been adopted by the latest Pharmacœpia, National Formulary, and New Nonofficial Remedies, and these dose equivalents have the approval of the Federal Food and Drug Administration.

(Copies of the table, larger and on heavy paper, are available on request, sent to E. Fullerton Cook, Chairman, U.S.P. Revision Committee, 4738 Kingsessing Ave., Philadelphia 43, Pa.)

CLINICAL NOTES AND ABSTRACTS

The Celiac Syndrome

Symptoms: Failure to gain on adequate diet, loss of muscle tone, anemia, irritability, deficiency of vitamins A and D. Additional symptoms which may be found in the fibrocystic type are chronic upper respiratory infection and occasionally fatty stools. In the allergic type, eczema and asthma are associated. In idiopathic, or the most common type, fatty stools are always complained of. Laboratory aids in diagnosis are: Test of stool fat, vitamin A absorption curve, fasting carotene test, sugar tolerance curve, pancreatic enzyme studies, history and skin test for allergy, and x-rays of chest and gastrointestinal allergy.

Fatty Stools

As most patients with a celiac syndrome have steatorrhea, it follows that their stools contain more fat than normal. A simple test consists in examining under the low-power objective of the misroscope, a small amount of stool into which a few drops of sudan IV have been dropped. More than 4-5 droplets of fat per low-power field indicates an excess of fat in the stool (3 plus or more). This simple test is, therefore, relatively diagnostic of deficient fat absorption.

Treatment: Crude liver extract, which contains two units in each 1 cc., is given intramuscularly and parenteral vitamin B complex is given in doses of 2 cc. intramuscularly every other day for a period of three weeks. Improvement usually occurs within three weeks and most of the children can resume the normal diet within six weeks. The cure is usually permanent. A high protein, low fat, and low carbohydrate diet is offered during the course of injections and for three to six weeks thereafter. Oral synthetic vitamin B complex gives the best results of any oral preparation.

Fibrocystic disease of the pancreas is treated by giving a diet consisting of 180 to 200 calories per kilogram and is high in protein. The rest of the diet is composed mainly of carbohydrate, with fat kept at a minimum. Eight cc. of oral vitamin B complex per day are given. The deficiency in pancreatic enzymes is treated by giving the child 4-6 grams of pancreatin or pancreatic granules (about 1 teaspoon per meal) mixed in cereal or banana. Calcium caseinate should also be given. —E. S. PLATOU in *Journal-Lancet*, May 1946.

The Postmortem Examination

We do not hesitate to have operations performed on our bodies when we are alive and circumstances require it. Why then should we mind operations (which are done with the same care, the same gentleness, and the same reverence) being done to our bodies when we are dead? Surely this is rightful service which the dead should give to the living. The benefit of such service to the living is very great.—LORD DAWSON.

Fractures Undiagnosed by X-Ray

A fracture may not be seen on the x-ray film if the x-ray tube is not in a direct line with the fracture and the rays parallel to the fracture. In suspected fractures, have three or four views taken from various angles (the usual lateral and anteroposterior views are often inadequate to visualize a small fracture). A true, retarded fracture may not appear

for a week or ten days, so that all patients complaining of persistent pain in a bone or joint should be x-rayed again.—B. I. Toth, M.D., in *Radiology*, May 1946.

Primary Malignant Tumors of the Spleen

Tumors arising from the splenic sinuses are highly malignant and rapidly metastisize to the liver, lungs, regional lymph nodes and pancreas. Symptoms are pronounced and include rapidly growing left upper abdominal tumor, persistent or intermittent pain, tenderness over the spleen and cachexia. Pathologically the tumors consist of nonvascular sarcomas arising from the sinus endothelium and malignant angiomata from the same origin. — J. A. Lazarus, M.D., *Am. J. Surg.*, Apr. 1946.

Mikulicz's Syndrome After Thiouracil

R. C. Bishop, M. D. (*J. Clin. Endocrin.*, Mar. 1946) reports a patient who developed generalized swelling of the salivary and lacrimal glands, fever and leukocytosis during treatment with thiouracil. Proof of the etiological relationship was the recurrance of the syndrome with readministration of the drug. Atrophy of the right parotid gland was demonstrated by a subsequent sialogram. The author mentions the rare toxic reaction to iodine known as "iodine mumps" to which this case was analagous.

Colostomy Skin Excoriations

A thick paste of aluminum hydroxide gel applied to the excoriated skin around a colostomy results in relief of burning and itching, and healing of the eroded area. At first, the paste is applied every two or three hours, then the interval is lengthened, as heating occurs. The aluminum hydroxide gel, commercially available as an acid absorbent for use in treating peptic ulcer, is allowed to dry in an open dish until a consistency of paste is obtained.—M. H. F. Friedman, M.D. in *J.A.M.A.*, June 8, 1946.

Seborrheic Dermatitis

Certain diffuse, as well as localized, cutaneous eruptions, apparently beginning as seborrheic dermatitis and associated with gastric hypoacidity, or anacidity yield only to large, parenteral doses of crude liver extract, 3 cc. two or three times weekly, but not to treatment with vitamin B complex. There is a clinical syndrome consisting of dermatitis, macrocytic anemia, and absence of freehydrochloric acid, which disappears following parenteral injections of crude liver extract.—E. Urbach, M.D., *Penn Med. J.*, May, 1946.

Nicotinic Acid for Headache

The intravenous injection of sodium nicotinate relieves patients with severe headache. This treatment is recommended in the symptomatic management of severe idiopathic headache, migraine, and headache occurring after spinal puncture.

The dose is 100 mg. of nicotinic acid or its equivalent as the sodium salt. This amount will produce a flush in almost every case.—J. W. Goldzieher, M.D., in *J.A.M.A.* May 11, 1946.

Recurrent Corneal Erosion

Recurrent corneal erosions may cause eye pain. They may be detected by careful examination of the cornea with an ophthalmoscope, using a plus 4.00 lens in a darkened room. One finds small grey-white lesions or shadows in the cornea, some of which may stain with fluorescein solution.

Treatment: Bland ointment, as 3 to 10 percent boric acid ointment; if unrelieved, remove all loose epithelium, scrape cornea gently and cauterize with 10 percent trichloracetic acid.—Paul A. Chandler, M.D. (Boston) in *Dig. Opthalmol. & Otolaryng.*, June 1946.

Postmortem Findings

Always report the postmortem findings. If there is a lesson to be taught, it should travel as far as possible.—*William Mayo.*

Ophthalmia Neonatorum

Opthalmia Neonatorum responds promptly to local treatment with penicillin providing that an adequate concentration of penicillin (2500 units per cc.) is used with sufficient frequency. Instillation of drops at hourly intervals will clear the infection in a matter of hours, or one or two days, but results can be speeded significantly by more frequent instillations. A. Sorsby (White Oak Hospital, London, England) obtained suppression of purulent discharge within thirty minutes by using penicillin drops at intervals of one minute. The residual conjunctival irritation cleared within one or two days. He recommends use of drops at intervals of from five to thirty minutes.

Folic Acid Therapy in Pernicious Anemia

C. A. Doan, et al (*Ohio State Med. Jour.*, 42, 139, Feb. 1946) report that the clinical and hematological responses, the latter including changes in both the bone marrow and in the peripheral blood, of patients with pernicious anemia to daily parenteral administration of 2 mgms. of folic acid are identical to those which follow treatment with liver extract. The quantity of folic acid needed to promote maturation of the megaloblasts in the macrocytic anemias is much greater than the amounts present in potent and concentrated liver extracts. The equal effectiveness of folic acid orally and parenterally indicates that folic acid is not the intrinsic nor the extrinsic anti-pernicious anemia factors themselves.

In three patients with pernicious anemia who had developed hypersensitive intolerance to repeated injections of parenteral liver extracts, intravenous injections of folic acid to doses of as high as 20 mgms. daily produced no local or systemic reactions of sensitivity. All patients, when tested intradermally, showed marked local sensitivity to diluted commercial liver extracts, but not to folic acid in dilutions of 1 mgm. 1/0.1 cc.

Synthetic folic acid, in doses up to 50 mgm. intravenously daily, does not improve the granulopenia of epidemic influenza, nor the bone marrow or peripheral blood picture of idiopathic hypoplastic or myelophthisic anemias.

(The work of Doan and his associates has been confirmed in a small series of cases reported by L. A. Amill and M. Wright (J.A.M.A., 131, 1201, Aug. 10, 1946) who induced clinical improvement and hematological remission in 6 cases of pernicious anemia by the use of oral and parenteral synthetic folic acid.—Ed).

Pulmonary Calcifications Due to Histoplasma

It has been recognized for nearly two decades that pulmonary calcifications occur frequently in the presence of a negative tuberculin test. Do such calcifications represent the primary focus of a disease other than tuberculosis?

The possibility that Histoplasma capsulatum might be the responsible agent has been suggested by the work of Palmer (Non-Tuberculous Pulmonary Calcifications and Sensitivity to Histoplasmin: *Publ. Health Rep.*, 60, 513, May 1945) and others. The clinical and epidemiological reasons for suspecting the relation of histoplasma to pulmonary calcification in tuberculin negative persons is reviewed by Christie and Peterson (Pulmonary Calcification in Negative Reactors to Tuberculin: *Amer. J. Publ. Health*, 35, 1131, Nov. 1945) of Vanderbilt University. These authors report preliminary studies on histoplasmin, on skin sensitivity of children with pulmonary calcifications to histoplasmin and to tuberculin and comment critically on the significance of past and present studies of this problem.

Appendicitis in Old Persons

The first sympton of appendicitis in an elderly person may be the peritonitis that follows perforation, possibly due to arteriosclerosis of the appendiceal artery with immediate gangrene of the appendix and consequent lack of pain, since a dead appendix does not cause pain.—ALANSON WEEKS, M.D., Surgical Service, St. Luke's Hospital, San Francisco, Calif.

Periodicity of Epidemics of Influenza A and B

All major outbreaks of influenza during recent years have been due to one or the other of the two known strains of the virus, A or B, although there have been minor outbreaks of unknown etiology. Epidemics of influenza A have occurred in the northern hemisphere at intervals of three and four years and since the last epidemic was in the fall and winter of 1943-44, the possibility of an outbreak this fall should be kept in mind. The most recent epidemic of influenza B occurred in the northern hemisphere in the fall and winter of 1945-1946. Scattered cases during the spring and summer have preceded epidemics of either strain in past experience.—Dr. Monroe Eaton, Virus Laboratory, California State Dept. Public Health at annual meeting of A.M.A., San Francisco.

Use of Penicillin in Peritonitis

G. Crile, Jr. M.D. (*U. S. Naval Med. Bull.*, Sept. 1945) reports the successful use of penicillin in controlling peritonitis due to appendicitis and to perforations of the colon. Initial doses of 100,000 units every 2 hours for two days followed by a gradual tapering off dosage controlled peritonitis and permitted resolution of infection without abscess formation. Initial high doses were used to overcome the penicillin neutralizing effects of E. coli. Smaller doses permitted abscess formation. G. F. WOLLGAST, M.D. (*S. G. O.*, Dec. 1945) obtained excellent results in both peritonitis and infected abdominal wounds when penicillin was utilized preoperatively and postoperatively. He concludes that definitive operative procedures on infected wounds may be done earlier and more safely if penicillin is administered preoperatively.

Instrasternal Infusions

Use of the sternal route permits blood or plasma to be given, at once, to patients whose veins cannot be used.

A simplified needle has been devised for giving intrasternal fluids or blood transfusions by J. T. McLaughlin, M.D., and D. M. Green, M.D., of Kings County Hospital, Seattle, Washington.

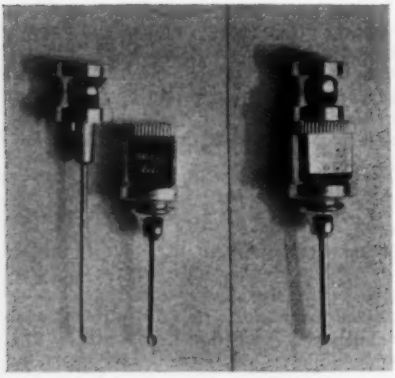

Fig. 1. (Left) The sternal needle and its stylet. (Right) The needle assembled, ready for insertion.

Fig. 2. After proper local anesthesia is carried down and into the periosteum the needle is inserted through the outer plate of the sternum by use of strong, steady pressure.

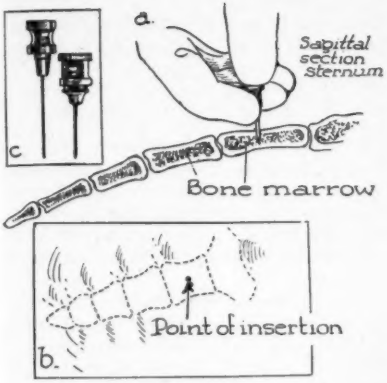

Fig. 3

Fig. 3. A cross-section view showing the introduction of the needle into the sternum and the point of insertion.

Fig. 4. The needle in place in the sternal marrow cavity.

Fig. 5. Aspirating bone marrow (stylet removed) as positive check that the needle is in the cavity.

Fig. 4

Fig. 5

Telling the Obstetric Patient

The physician and the nurse have been so absorbed in the mechanical details of care for prenatal patients, that they forget to emphasize the mental aspects. The coming of a baby into a family is more than a physical process, governed only by biologic chemistry, and limited to the science of drugs, masks, routines, and methods. Maternity is not a seperate experience of life unrelated to the rest of life. It is the coming combination of life processes.

The ordinary obstetric care is not designed for the woman's peace of mind, nor for teaching her facts that she should know about the health of her baby, and her marital and family relations. It gives the doctor a comprehensive view of his patient for disaster prevention and for her safety at all times. The expectant mother herself has little out of it that will help her live a fuller, more healthful life. In fact this care, which puts its chief emphasis on the body and its function of menstruation, respiration, circulation, and elimination can put an effective damper on the mental uplift which came upon her when she first knew that she was expecting a baby.

Many doctors look askance at efforts to teach expectant parents. Perhaps believing that they will obey orders better, if they are ignorant. During the past four years, 5,000 mothers have come to teaching classes at some maternity association. Less than 10% were referred by physicians and these by only a few of the physicians.—H. Corbin, R.N., in *Am. Jrnl. of Obs.*, June 1946

Streptomycin

These diseases are being studied as to the effectiveness of steptomycin treatment:

1. Gram negative bacillary infections of the genito-urinary tract which resist the sulfonamides.
2. Gram negative bacillary infections with bacteremia.
3. Hemophilus influenzae infections, including meningitis, pneumonia, middle ear disease and laryngotracheitis.
4. Friedlander's bacillus pneumonia.
5. Salmonella infections (paratyphoid).
7. Acute brucellosis with bacteremia.
8. Tularemia.
8. Bacterial endocarditis due to gram negative bacilli.

Chester S. Keefer is Chairman of the committee. His address is 65 East Newton Street, Boston, Mass. This committee determines the allocation of streptomycin.—*J.A.M.A.*, May 4, 1946.

The New Pharmacopeia (XIII)

The appearance of a new Pharmacopoeia, which will become official on April 1, 1947 is the climax of an intensive investigation and study by groups of authoritative workers in medicine and pharmacy.

A striking feature of this new Pharmacopoeia has been the sharp trend toward medicines having specific physiologic action. The addition of such cardio-active drugs as Digitoxin, Digoxin and Lanatoside C are illustrations.

English Titles

One will find a notable change in the position of texts for the basic drugs and their preparations for they follow each other, in alphabetical order, by English titles. For instance, Digitalis is followed by all of its preparations and also by Digitoxin and its preparations and Digoxin and its preparations; Belladonna Leaf by the Extract, Fluidextract, and Tincture; Diethylstilbestrol by its Capsules, Injection and Tablets; and so on through the list.

However, the Latin titles are not lost for they have simply changed places with the English titles but they no longer establish the alphabetical position of texts in the book.

This change may seem strange at first, but it was urged by the medical group and is in harmony with general usage in modern medical practice, in medical teaching programs, in hospitals and in most modern prescriptions.

Reference Standards

An increasing number of U.S.P. essays and tests, both chemical and biological, are requiring Reference Standards and this has become an important and increasingly responsible pharmacopoeial service.

Still another certain U.S.P. Reference Standards provide is a basis for research into new products. The standards for unofficial substances have been limited up to this time to Trypsin, Calcium Pantothenate and Pyridoxine Hydrochloride, but authority has just been given for the preparation and distribution of Reference Standards for the Amino Acids.

Pharmacopoeial Policies

The future of the Pharmacopoeia depends upon the maintenance of its present program, i.e. the restriction of its scope to approved medicines with preparations of these for their most efficient administration, the selection being made with exacting, scientific care without commercial influence or bias.

Vitamin K Treatment of Urticaria

J. H. Black (*Jour. Allergy, 16, 83,* 1945) reports a series of patients with urticaria who were treated successfully with vitamin K in oral doses of 6 mgms. daily. Urticaria had existed for periods of one month to twenty years and had been refractory to the ordinary methods of treatment. The prothrombin time was prolonged in 78 of 119 patients. 78% of patients with prolonged prothrombin time were relieved and 32% of those with normal prothrombin time were benefitted. Treatment, continued for from 1 to 4 weeks, abolished symptoms in 75% of patients within one week. 31% of patients relapsed within 2 weeks to 8 months, but all responded to a second course of vitamin K and did not again relapse. In all cases treated, no matter what the outcome of the urticaria, the prolonged prothrombin time returned to normal No relief was obtained by a series of patients suffering from asthma, allergic rhinitis, or allergic eczema.

Penicillin Ointment in Impetigo Neonatorum

Penicillin ointment containing 250 units per gm. of base and applied to lesions, after the blebs and crusts had been removed is effective in impetigo neonatorum. No new lesions appeared after 48 hours and all initial lesions were dried and healed after 72 hours. There were three recurrences after patients had been home for over one week and baths had been started. Isolation technic must be observed and no baths given until the lesions are completely healed. The authors prefer penicillin ointment to other agents.—E. L. KENDIG, JR., M.D. *J.A.M.A.*, 129, 1094, December 15, 1945.

Rectal Aminophylline and Barbiturate for Asthma

S. J. Prigal, et al., (*Jour. Allergy*, May 1946) successfully administer aminophylline and sodium pentobarbital rectal suppositories to asthmatic patients. The adult suppository contains 0.5 Gm. aminophylline and 0.1 grams pentobarbital sodium; the children's suppository contains one half of these amounts. Suppositories containing aminophylline alone gave relief to only 38 of 47 ambulatory patients treated by this method, the use of both drugs gave relief to 44 of 47 patients. The response to the combination required but one half the time takeh when aminophylline alone was given. Attacks were reduced both in frequency and in severity. Suppositories were inserted twice daily. No untoward reactions were noted and local irritation was relieved usually by lubricating the suppository with nupercainal ointment. The authors believe the method is particularly indicated in pediatrics because of the ease of administration and rapid action. They suggest its application to cardiac patients.

Carbon Dioxide for Cough

Carbon (CO_2) by inhalation liquefies mucopurulent exudate in the bronchi and reduces its viscosity, permitting it to be coughed up more easily, especially in tuberculosis. A tank containing a mixture of 10 percent CO_2 and 90 percent oxygen is connected with a meter, to regulate amount of flow, and to a face mask on the patient or a glass tube, if the patient is debilitated. Carbon dioxide stimulates respiration, therefore the patient must be watched. Four to 5 liters per minute are given if the mask is used; 5 to 7 if the open method is employed. Treatments are given 1 to 3 times daily, with a duration of 5 to 15 minutes. — A. L. BANYAI, M.D *in Anesth. & Anal.*, May-June, 1946.

"No, no, Junior, just say 'An-h-h' to the nice doctor."

DIAGNOSTIC POINTERS

Penicillin for Peritonitis

Thirty patients with established peritonitis, intra-abdominal inflammatory masses, or extensive contamination of the peritoneal cavity from ruptured abscesses were treated with 100,000 units of penicillin every 2 hours intramuscularly for 2 days and with diminishing doses for 6 more days. None developed intraperitoneal abscess or complications. —CRILE, G., JR., in *Cleveland Clinic Quarterly*, July, 1945.

Dandruff and Falling Hair

Place 30 sulfanilamide tablets (5 gr. or 0.5 Gm.) in a gallon of water and let it stand for 3 weeks. This is used freely on the scalp once or twice daily. It should be well rubbed in. It will dissolve dandruff and, in young persons, often stop falling hair. If a more elegant preparation is desired, this prescription can be used:

℞Sulfanilamide		gr. 60	gm. 4
Fluidextract of thyme		dr. 6	cc. 30
Glycerin		dr. 6	cc. 30
Water	ad	oz. 16	cc. 500

—JOHN ROMMEL, M.D. in *Med. Rec.*, Aug. 1945.

Diabetic Coma

Aggressive insulin treatment in the first 3 hours of diabetic coma saves lives. If only 83 units are given, 18 percent will die. If 216 units are given in the first 3 hours, less than 2 percent will die. Diabetic coma is an emergency.—E. P. JOSLIN, M.D.

Vincent's Ulcers of the Tonsils

Patients with the necrotic ragged tonsilar lesion of the type known as Vincent's ulcer can be cured with two doses of 50,000 units of penicillin each, given at a three hour interval.—G. F. JOSEPH, M.D., in *Southern Med. Journal*, Dec., 1945.

Shock in Acute Infections

The picture of shock may suddenly develop in acute infections (pneumonia, diphtheria, septicemia, scarlet fever). It is often preceded by 1. sudden rise in temperature preceding the overwhelming spread of infection, 2. abrupt fall in temperature without a corresponding fall in pulse and temperature rates and 3. low blood pressure and oliguria. *Treatment*: Specific medication and serum to control causative infection, blood plasma, oxygen and slow intravenous fluids.—H. D. WARREN, M.D. in *New Eng. J. Med.*, Aug. 5, 1945.

X-ray Therapy of Rheumatoid Arthritis

X-ray therapy relieves local symptoms, alleviates pain, and increases mobility. It is only employed after failure of the usual accepted methods of treatment.—JONAS BORAK, M.D., *Radiology*, Oct., 1945.

Aminoacids for Peptic Ulcer

Feedings at two hour intervals of dextrimaltose (a prepared carbohydrate used in infant feeding) and hydrolyzed amino acids (obtainable commercially) relieved vomiting immediately, severe ulcer pain in 24 to 48 hours and occult blood within 1 week.—*J.A.M.A.*, Dec. 1, 145.

Effective Pertussis Immunization

The use of the Parke-Davis Sauer pertussis vaccine protected 91% of susceptible chilren. The use of the Lederle detoxified pertussis antigen protected only 67% of children.

The Sauer vaccine gave far better protection for a period of one to two years during which the children were studied.—J. H. CAULEY, M.D., in *J.A.M.A.* Oct. 20, 1945.

THUMBNAIL THERAPEUTICS

The Prolonged "Cold"

The cold that tends to hang on for a number of days may be a mild form of atypical (virus) pnuemonia. There is a slowly increasing headache, malaise, "scratchy" throat sensation, fever or chilly sensations and later a dry, irritating cough. Physical examination may disclose fine, crepitant rales without consolidation in some cases; the chest x-ray shows infiltration or congestion in practically all cases.—J. H. DINGLE, M.D. in *"The Doctors Talk It Over"* Jan. 15 1946 (Lederle).

Allergic Fatigue

Weakness and fatigue unrelieved by a formerly adequate amount of rest may be the result of a food allergy. The patient usualy does not suspect the foods. Physical, x-ray and laboratory examinations are usually negative. *Treatment:* Determine the offending foods by (1) placing the patient on a food elimination diet, such as Rowe's, (2) eliminating the common offenders (wheat, cereals, milk, eggs, legumes) or by (3) adding one food at a time to observe reactions.—THERON RANDOLPH, M.D. in *Ann. Allergy*, Nov.-Dec. 1945.

Post-Operative "Pneumonia"

Less than 10% of post-operative pulmonary complications are under true infectious basis or bronchial pneumonia. 90% represent varying degrees of bronchial obstruction on a mechanical basis and are associated in some degree with pneumonitis.—EDWARD C. THOMPSON, M.D., *Naval Medical Bulletin*, April, 1945.

Congenital Disorders

Congenital disorders (Mongolian idiots, Laurence-Moon-Biedl syndrome, etc.) are congenital, not endocrine disorders.—E. H. RYNEARSON, M.D.

Hypertension Headache

The typical hypertension headache appears on awakening or awakens the patient during the early morning hours, has its greatest intensity before arising and passes away during the course of the morning hours; it reappears day after day for considerable periods.

It is not related to the blood pressure level. It is often brought on or increased by excitement or emotional tension. *Treatment:* It may be relieved by intravenous ergotamine tartrate (Gynergen), compression of the common carotid artery or temporal artery on the affected side, or elevation of the head posts of the bed on 10 inch blocks.— S. A. STEINER, M.D. (Washington, D. C.) in *Med. Ann. Dist. Columbia*, Dec., 1945.

Tuberculin Test

Every child should receive a tuberculin test at 3 and again at 12 years of age — J. A. TOOMEY, M. D.

Indigestion in Old Men

Indigestion in old men is frequently due to an over-filled bladder which the patient does not realize is present. After the urinary retention is relieved, whether or not the patient is completely relieved depends on renal function.—JACOB SACHS, M.D. *New York State Journ. of Med* November 15, 1945.

Pain in the Rectum

Patients who complain of pain after bowel movement are usually found to have a fissure, and if we will use an angle probe—after the pain has been eased—we will find a sinus extending back from the crypt, on the posterior margin, and the undermining of this crypt has caused the fissure. The fissure broke because the tissue had been undermined by infection.—THOMAS BROCKMAN, M.D. (Greenville, S. C.) in *Southern Med. & Surg.*, Dec., 1945.

NEW BOOKS

Any book reviewed in these columns will be procured for our readers if the order, addressed to CLINICAL MEDICINE, Waukegan, Ill., is accompanied by a check for the published price of the book.

Oral Medicine

By Lester W. Burket, M.D., D.D.S., Professor of Oral Medicine, Thomas W. Evans Museum and Dental Institute, School of Dentistry, University of Pennsylvania. J. B. Lippincott. 1946. $12.00.

This monumental work is one of the finest of its kind to come to this reviewer's attention. It is an attempt to correlate the sciences of medicine and dentistry, and should be a factor in establishing closer relations between the two professions. It is almost encyclopedic in character, forming a quick reference for the busy practitioner and student alike. Even the more obscure conditions are described. The material is classified for easy access and subjects are covered in a logical and progressive manner.

The purpose of the book is to describe disease and its treatment, especially where there are oral manifestations. This cannot but broaden the dentist's concept of his patient, and "diagnosis" may acquire a new meaning.

A study of the table of contents shows the inclusiveness of the subjects. There are 673 pages, 33 chapters, and 11 sections.

The photographs and illustrations are excellent and profuse. It will be evident to the reader that the color photographs are not uniform in color value, due, no doubt, to their having been made at different times and under different conditions. Special mention should be made of the complete list of references and the fine indexing.

This book is a "must" for the dental practitioner.—V.R.S.

Diagnostic Procedures and Reagents

Technics for the Laboratory Diagnosis and Control of the Communicable Diseases. *American Public Health Association. 2nd Ed. 1945. $4.00.*

This book is a collection of 28 presentations—each written by experts—discussing laboratory procedures as related to many of the common communicable diseases. Control measures are commented on to some extent, and useful bibliographies given. It is unfortunate, from the standpoint of the practitioner, that the status of immunization procedures has not been included.—I.J.W.

The Extremities

By Daniel P. Quiring, Ph. D., Head of Anatomy Division, Cleveland Clinic Foundation et al. Lea & Febiger. 1945. $2.75.

Something that has never been published before—a series of separate diagrams illustrating each important muscle, artery and nerve in the extremities. A student can at once see the origin, insertion and function of a single muscle; the orthopedic surgeon and physical therapy technician can refresh their memories.

Skin Diseases, Nutrition and Metabolism

By Erich Urbach, M.D., Associate in Dermatology, University of Pennsylvania School of Medicine. Grune & Stratton. 1946. $12.00.

Six hundred pages and 1,307 references attest to the complete coverage of literature and the author's views on the relationship between the skin as an organ and the functioning of other parts of the body, the correlation with dietary changes, allergic influences, lipoid metabolism and other influences. The author calls attention to the fact that *sudden* changes in diet often result in improvement in skin diseases, even though the therapeutic diets may vary widely. One point of practical importance in the detection of foods to which the patient is allergic is the use of sugar and water only as a diet for a few days while the disturbance improves, then the feeding of one food at a time as a test measure. Salt restriction is advised for acute dermatitis.

Modern Drug Encyclopedia

By Alexander B. Gutman, M.D., Assistant Professor of Medicine, Columbia University, N. Y. C. Third Edition. Yorke Publishing Co. 1946. $10.00.

A listing of almost all modern pharmaceutical preparations together with formula and chemical name, action and uses, dose and methods of administration, cautions, and description of each company's particular preparation. A therapeutic index consists of a list of symptoms followed by the trade names of preparations which might be effective in treatment.

This book provides the address of each company so that one may quickly order any new preparation, such as fluorescein for intravenous use in determining circulation time in an injured extremity or bowel.

Roentgen Diagnosis of Diseases of the Gastrointestinal Tract

By John T. Farrell, Jr., M.D., Clinical Professor of Radiology, University of Pennsylvania. C. Thomas. 1946. $5.50.

A thoroughly practical, immediately usable handbook covering the abnormal roentgen features of lesions along the gastrointestinal tract. The text is brief, clear and correct. The well trained radiologist will find many points of interest but the physician who is new to the field will find it a valuable reference. In diagnosing non-opaque foreign bodies in the esophagus, the author mentions the use of 0 and 00 capsules containing bismuth subcarbonate. If these capsules, the 0 being tried first, pass the entire length of the esophagus and a thick barium mixture also passes, no foreign body is present.